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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,931	04/26/2001	Kazunobu Uehara	F-6961	1189

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Jordan and Hamburg
122 East 42nd Street
New York, NY 10168

EXAMINER
CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
2697	2

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/842,931	UEHARA ET AL.	
	Examiner	Art Unit	
	Antonio A Caschera	2697	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (U.S. Patent 6,409,596 B1).

In reference to claims 1, 7 and 9, Hayashida et al. discloses a game device displaying a game in a virtual space (see lines 4-5 of abstract). Hayashida et al. discloses performing projection conversion of polygon coordinates in a three-dimensional space based on matrix calculations (see column 8, lines 29-36 and columns 8-9, lines 64-6). Hayashida et al. also discloses the game system forming images of three-dimensional objects in a viewpoint coordinate system (see column 8, lines 49-58). Hayashida et al. discloses a coordinate conversion unit for receiving vertex coordinates of polygons and conversion matrices data, converting the vertex coordinates of polygons using the conversion matrices data (see column 8, lines 49-58). Hayashida et al. does not explicitly disclose a plurality of conversion matrices

however Hayashida et al. does disclose the CPU renewing conversion matrix data after the viewpoint is switched (see column 14, lines 58-67) and therefore the office interprets the renewing of conversion matrix data to be substantially similar to the implementation of a plurality of conversion matrices as disclosed by applicant. Hayashida et al. discloses an image processing unit synthesizing converted polygon data located in a frame buffer for display on a TV monitor (see column 9, lines 7-12 and #115, 116, #6 of Figure 3). Although Hayashida et al. discloses separate storage units for storing vertex coordinates of polygons and conversion matrices data (see columns 7-8, lines 67-4 and column 8, lines 49-50) Hayashida et al. does not explicitly disclose a storage unit storing at least vertex coordinates of polygons and data conversion matrices however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store vertex coordinates of polygons and data conversion matrices in the a single storage unit as it is a matter of design choice as preferred by the inventor. Note, in reference to claim 9, Hayashida et al. also discloses an information recording medium storing a program that executes the conversion processes (see column 4, lines 65-67).

In reference to claims 2 and 10, Hayashida et al. discloses all of the claim limitations as applied to claims 1 and 9 respectively in addition, Hayashida et al. discloses the geometrizer unit for fixing the coordinate system to a view coordinate system in a three-dimensional space (see column 8, lines 57-58) and performing perspective conversion of shape data using conversion matrix data sent from the CPU (see column 8, lines 54-57). Hayashida et al. does not explicitly disclose reading out a new plurality of conversion matrices however Hayashida et al. does disclose the CPU renewing conversion matrix data after the viewpoint is switched (see column 14, lines 58-67) and therefore the office interprets the renewed conversion matrix data, to be

different from previous matrix data because of viewpoint switching, and further read out by the geometrizer.

In reference to claims 3, 6, 11 and 14 Hayashida et al. discloses all of the claim limitations as applied to claims 2, 5, 10 and 13 respectively. Although Hayashida et al. discloses the CPU renewing conversion matrix data after the viewpoint is switched (see column 14, lines 58-67), Hayashida et al. does not explicitly disclose repeatedly reading out new conversion matrix data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to repeatedly read out data of perspective conversion matrices in order to update matrix conversion calculations, as matrices need to be updated as viewpoints are constantly switched.

In reference to claims 4, 8 and 12, claims 4, 8 and 12 are similar in scope to claims 1, 7 and 9 and therefore are rejected under similar rationale. Note, Hayashida et al. also discloses data busses connecting the various hardware units, in particular the shape data ROM (see #111 of Figure 3) and the conversion matrix storing RAM (see #103 of Figure 3) with the conversion unit, the geometrizer (see #110 of Figure 3). The office interprets these data lines to be substantially similar to a transfer unit allowing for the transfer of data from the storage units. Note, in reference to claim 12, Hayashida et al. also discloses an information recording medium storing a program that executes the conversion processes (see column 4, lines 65-67).

In reference to claims 5 and 13, Hayashida et al. discloses all of the claim limitations as applied to claims 4 and 12 respectively in addition, Hayashida et al. discloses the geometrizer unit for fixing the coordinate system to a view coordinate system in a three-dimensional space (see column 8, lines 57-58) and performing perspective conversion of shape data using

conversion matrix data sent from the CPU (see column 8, lines 54-57). Hayashida et al. does not explicitly disclose reading out a new plurality of conversion matrices however Hayashida et al. does disclose the CPU renewing conversion matrix data after the viewpoint is switched (see column 14, lines 58-67) and therefore the office interprets the renewed conversion matrix data, to be different from previous matrix data because of viewpoint switching and further read out by the geometrizer. Hayashida et al. does not explicitly disclose transferring the plurality of perspective conversion matrices different from each other after transferring the polygon coordinate data however the office interprets such an order of transferring data as a matter of design choice as preferred by the inventor.

References Cited

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Morgan et al. (U.S. Patent 5,821,940)

- Morgan et al. discloses a system for processing vertex data of polygons where matrix transformations of vertex data from vertex to world space coordinate conversion is performed.

b. Fujiki et al. (U.S. Patent 5,969,725)

- Fujiki et al. discloses an image alignment apparatus where shape data, including vertex data, is converted from global coordinate to two-dimensional coordinate system via matrix calculations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso, can be reached at (703)-305-3885.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

aac

4/16/03